MAYFET, A.; SHULENIN, M.

Efficient interfarm fattening centers. Sel'.stroi. 15 no.9: 7-9 S '60. (MIRA 13:9)

1. Glavnyy inzhener Belgorodskogo oblmezhkolkhozstroya (for Mayfet).
2. Korrespondent zhurnala "Sel'skoye stroitel'stvo" (for Shulenin).
(Belgorod Province--Feeding and feeds)

SHULENIN, M.

Swampy lands have become fertile. Sel'. stroi. 15 no.12:6-7 D '60.
(MIRA 13:12)

1. Korrespondent zhurnala "Sel'skoye stroitel'stvo."
(Vologda Province—Reclamation of land)

SHULENIN, M.

Efficient farm buildings are being built. Sel' stroi. 15 no.1:13-14 Ja '61. (MIRA 14:3)

1. Korrespondent zhurnala "Sel'skoye stroitel'stvo."
(Vologda Province--Farm Buildings)

SHULENIN, M.

The village of Prudki will be an urban-style town. Sel'. stroi. 15 no. 2:24-25 F '61. (MIRA 14:5)

1. Korrespondent zhurnala "Sel'skoye stroitel'stvo." (Prudki--City planning)

SHULENIN, M.

Advanced organization of construction. Sel'. stroi. 15 no. 3:11-12 Mr '61. (MIRA 14:5)

1. Korrespondent zhurnala "Sel'skoye stroitel'stvo."
(Kimovsk District--Construction industry)
(Collective farms--Interfarm cooperation)

SHULENIN, M.

The village of Lukashevka grows better-looking. Sel'. stroi. 15 no.4:12 Ap '61. (MIRA 14:6)
(Lukashevka—Building)

SHULENIN, M.

Using reed in multiple-story housing construction. Sel'stroi. 16 no.6:12-13 Je '61. (MIRA 14:7)

1. Korrespondent zhurnala "Sel'skoye stroitel'stvo."
(Reed products) (Apartment houses)

SHULENIN, M.

Large plant for producing building materials. Sel'. stroi. 16 no.9:22-24 S '61. (MIRA 14:9)

1. Korrespondent zhurnala "Sel'skoye stroitel'stvo".
(Mineral'nye vody--Building materials industry)

SHULENIN, M., inzhener-ekonomist

Automatic machinery comes to the farm. Naukz i zhizn' 28 no.3:4-6 Mr '61. (MIRA 14:3)

(Automatic control) (Swine houses and equipment)

SHULENIN, M., inzh.-ekonomist

Housing construction on state farms. Sel' stroi. [i.e.16] no.3:17-18 Mr '62. (MIRA 15:7)
(Housing, Rural--Leningrad Province)

SHULENIN, M., inzh.-ekonomist

They build slowly and poorly on the state farms of Bryansk Province. Sel. stroi. no.4:16-17 Ap '62. (MIRA 15:8)
(Bryansk Province--Construction industry)

SHULENIN, M.

A supply center is the key to a successful construction in the virgin lands. Sel'. stroi. no.5:17-19 My '62. (MIRA 15:7)

1. Korrespondent zhurnala "Sel'skoye stroitel'stvo".
(Altai territory—Construction industry)

SHULENIN, M.

You should not work like that. Sel'. stroi. no.6:28-29 Je '62. (MIRA 15:7)

1. Korrespondent zhurnala "Sel'skoye stroitel'stvo".
(Collective farms—Interfarm cooperation)
(Construction industry)

SHULENIN, M.

On old Smolensk Road. Sel'. stroi. no.9:8b-10 S '62. (MIRA 15:10)

1. Korrespondent zhurnala "Sel'skoye stroitel'stvo".

(Smolensk Province—Construction industry)

SHULENIN, M.

You won't build much using such methods. Sel'.stroi. no.11:27-28 N '62. (MIRA 15:12)

1. Korrespondent zhurnala "Sel'skoye stroitel'stvo." (Belgorod Province--Construction industry)

SHULENIN, M., inzh.-ekonomist

IUkhnov builders improve their work. Sel'. stroi. no.12:8-8a D '62. (MIRA 16:1)

(IUkhnov—Construction industry)

SHULENIN, M.

Activities and needs of the Kizlyar interfarm construction trust. Sel'. stroi. 16 no.1:13-14 Ja '62. (MIRA 16:1)

1. Korrespondent zhurnala "Sel'skoye stroitel'stvo".
(Kizlyar District—Construction industry)

SHULENIN, M.

Mistakes of the past should not be repeated. Sel'. stroi. 18 no.5:29-30 My '63. (MIRA 16:6)

1. Korrespondent zhurnala "Sel'skoye stroitel'stvo".
(Orel Province—Construction industry)

IGNATOK, A.I., inzh.; SHIFMAN, G.M., kand. med. nauk, red.; KORETSKIY, V.A., starshiy inzh., red.; SHULENIN, N.A., red.; MIKHAYLOVA, V.L., red.; KOGAN, G.M., starshiy inzh., red.; NARBEKOVA, N.N., starshiy inzh., red.; SIDOROCHKIN, S.S., starshiy inzh., red.; SOROKINA, G.Ye., tekhn. red.

[Safety and industrial sanitation regulations for founding shops in the machinery industry] Pravila tekhniki bezopasnosti i proizvodstvennoi sanitarii v liteynom proizvodstve mashinostroitel'noi promyshlennosti. Utverzhdeny Prezidiumom TsK Profsoiuza rabochikh meahinostroeniia 19 noiabria 1958 goda.... Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1960. 67 p. (MIRA 14:9)

1. Profsoyuz rabochikh mashinostroyeniya SSSR. 2. Glavnyy tekhnicheskiy inspektor TSentral'nogo komiteta profsoyuza rabochikh mashinostroyeniya (for Ignatok, Mikhaylova). 3. Moskovskiy institut okhrany truda Vsesoyuznogo tsentral'nogo soveta profsoyuzov (for Shifman). 4. Moskovskiy zavod "Stankolit" (for Koretskiy). 5. Uchenyy sekretar' NIITLITMASha (for Shulenin). 6. Gosudarstvennyy institut po proyektirovaniyu stankostroitel'nykh, instrumental'nykh, abrazivnykh zavodov i zavodov kuznechno-pressovogo mashinostroyeniya (for Narbekova). 7. Moskovskiy avtozavod im. Likhacheva (for Kogan). 8. Gosudarstvennyy komitet Soveta Ministrov SSSR po sudostroyeniyu (for Sidorochkin).
(FOUNDING--SAFETY MEASURES) (FACTORY SANITATION)

IGNATOK, A.I., inzh.; SHIFMAN, G.M., kand. med. nauk, red.; [illegible] V.A., starshiy inzh., red.; SHULENIN, N.A., red.; MIKHAYLOVA, V.L., tekhinspektor, red.; KOGAN, G.M., starshiy inzh., red.; NARBEKOVA, N.N., starshiy inzh., red.; SIDOROCHKIN, S.S., starshiy inzh., red.; SMIRNOVA, G.V., tekhn. red.

[Regulations on safety measures and industrial sanitation in foundry practice in the machinery industry] Pravila tekhniki bezopasnosti i proizvodstvennoi sanitarii v liteinom proizvodstve mashinostroitel'noi promyshlennosti. Utverzhdeny Prezidiumom TsK Profsoiuza rabochikh mashinostroeniia 19 noiabria 1958 goda... (MIRA 15:6)
Moskva, Mashgiz, 1961. 69 p.

1. Profsoyuz rabochikh mashinostroyeniya SSSR. 2. Glavnyy tekhnicheskiy inspektor TSentral'nogo komiteta profsoyuza mashinostroyeniya SSSR (for Ignatok). 3. Moskovskiy institut okhrany truda Vsesoyuznogo tsentral'nogo soveta profsoyuzov (for Shifman). 4. Moskovskiy zavod "Stankolit" (for Koretskiy). 5. Uchenyy sekretar' Nauchno-issledovatel'skogo instituta liteynogo mashinostroyeniya i liteynoy tekhnologii (for Shulenin). 6. Tekhnicheskiy inspektor TSentral'nogo komiteta profsoyuza mshinostroyeniya SSSR (for Mikhaylova). 7. Moskovskiy avtozavod im. Likhacheva (for Kogan).
(Continued on next card)

SHUTKINA, V.D.

Characteristics and reservoir-rock properties of the gas-bearing sediments in a coprous series of sandstones in the Shebelinka gas field. Trudy VNIIGAZ no.20/28:210-223 '64.
(MIRA 17:8)

SHULENINA, V.D.

Characteristics and reservoir properties of rocks in the lower anhydrite gas-bearing horizon of the Shebelinka field. Trudy VNIIGAZ no.10:44-61 '60. (MIRA 13:10)
(Shebelinka region--Gas, Natural--Geology)

L 24408-65 EWT(m)/T IJP(c)

ACCESSION NR: AT5003274 S/2892/64/000/003/0005/0009

AUTHOR: Kolobashkin, V. M.; Shulenko, M. V.; Zharkov, V. P.

TITLE: Gas radiometry using cylindrical counters within fixed volumes

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Voprosy dozimetrii i zashchity ot izlucheniy, no. 3, 1964, 5-9

TOPIC TAGS: gas radiometry, counter volume, beta radiation, radiation dosimetry, counter sensitivity

ABSTRACT: The theory underlying the determination of the concentration of β-radioactive gases using cylindrical counters within a fixed gas-filled volume (see, e.g., H. Gebauer, Kerntechnik, 3, 3, 130, 1961) shows that there is an optimum counter radius resulting in an optimum counter sensitivity. However, in most practical cases this optimum cannot be achieved due to the finite radii of available counters. To circumvent this difficulty, the authors propose that the optimum counter volume be covered by a symmetrically distributed battery of 7 counters as shown in Fig. 1 of the Enclosure. They derive the pertinent theoretical equations which, among other things, permit the relative change in counting rate when going over

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L 24408-65

ACCESSION NR: AT5003274

from a single counter to the combination of seven to be estimated within ± 10%. Tests showed that the background of seven AS-1 counters in coincidence was extremely constant and equal to 26.3 ± 0.2 c/min., while each of the separate counters registered a background of 17-24 c/min. Orig. art. has: 7 formulas and 2 figures.

ASSOCIATION: None

SUBMITTED: 00 ENCL: 01 SUB CODE: NP

NO REF SOV: 004 OTHER: 001

Card 2/3

LYUKSEMBURG, M.S.; VAYSBERG, I.Ye.; MASLOV, I.G. [deceased]; SHNAYDER, I.S.; SHULENKOVA, I.Ye.

Norms for the expenditure of sole raw materials per area unit. Kozh.-obuv.prom. 2 no.7:8-11 Jl '60. (MIRA 13:8)
(Leather industry--Standards)

SHULENKOVA, Ye.I., inzh.; KUT'IN, V.A., kand.tekhn.nauk.

Properties of face layers of Russian leather. Mauch.-issl. trudy TSNIKP no.28:11-26 '57. (MIRA 11:10)
(Leather--Testing)

GOL'TSEN, I.I.; KOLESNIKOVA, N.I.; SHULENKOVA, Ye.I.

Tanning sole leather in worm apparatuses. Leg.prom. 18 no.10:43-44 O '58. (MIRA 11:11)

(Tanning)

ACC NR: AP6033510 SOURCE CODE: UR/0413/66/000/018/0143/0143

INVENTOR: Zemskov, G. V.; Shulenok, P. F.

ORG: none

TITLE: Method of preparation of titanium and titanium-alloy surface before hot-aluminizing. Class 48, No. 186244

SOURCE: Izobret prom obraz tov zn, no. 18, 1966, 143

TOPIC TAGS: titanium, ~~[illegible]~~ titanium alloy ~~[illegible]~~, METAL SURFACING, ALUMINUM PLATING

ABSTRACT: This Authors Certificate introduces a method of surface treatment of titanium and titanium alloy parts as a preparation for hot aluminizing. To simplify the process, the parts are oxidized in air at 450—700C for 15—20 min.

SUB CODE: 11/ SUB CODE: 12May64/

Card 1/1 UDC: 621.793.52

L 29356-66 EWP(k)/EWT(m)/EWP(t)/ETI IJP(c) JW/JD/HW/JG

ACC NR: AP6016594 (A, N) SOURCE CODE: UR/0129/66/000/005/0052/0055

74
73
B

AUTHOR: Zemskov, G. V.; Shulenok, P. F.

ORG: Odessa Polytechnic Institute (Odesskiy politekhnicheskiy institut)

TITLE: A new technique for chemical-thermal treatment of transition metals in molten aluminum-base alloys

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 5, 1966, 52-55

TOPIC TAGS: refractory metal, titanium, niobium, molybdenum, transition metal, metal oxidation, oxidation resistance, oxidation resistant coating, aluminum alloy coating/VN1 niobium, VM1 molybdenum

ABSTRACT: A hot-dip method for applying aluminum-alloy coatings on transition metals such as titanium, niobium, and molybdenum has been developed. The surface of transition metals should be activated to ensure a satisfactory adhesion of the coating to the base metal. Several methods of activation were tested. The best results were obtained by dipping into a fluoride-base flux, and by oxidation in air at elevated temperatures, 400—550C for VT1 titanium, 250—350C for VN1 niobium, and 350—450C for VM1 molybdenum. The latter method ensures a satisfactory continuity of the coating and a satisfactory adhesion between the coating and the base metal. Complex aluminum-alloy coatings have a much higher protective ability than pure aluminum coating. For instance, aluminum coating on VN1 niobium began to peel after 50 hr at

Card 1/2 UDC: 621.785:53.669.77/78

L 29356-66
ACC NR: AP6016594 /

850—900C and aluminum-silicon-molybdenum alloy coating, after 100 hr at 1000—1100C; aluminum-silicon-molybdenum-niobium-chromium alloy coating was only slightly damaged after 200 hr at 1250—1300C. Aluminum-silicon-molybdenum-chromium alloy coating protects VM1 molybdenum at 1500C for at least 30 hr. The protective ability of these coatings may be utilized also in hot plastic working of refractory metals. Orig. art. has: 2 figures and 3 tables. [DV]

SUB CODE: 13, 11/ SUBM DATE: none/ ORIG REF: 006/ OTH REF: 002/ ATD PRESS: 5009

Card 2/2 CC

ZEMSKOV, G.V.; SHULENOK, P.F.

Calorizing and aluminum-silicide coating in the molten state of titanium. Zashch. met. 2 no.1:101-103 Ja-F '66.
(MIRA 19:1)

1. Odesskiy politekhnicheskiy institut. Submitted June 7, 1965.

L 15646-66 EWT(m)/EPF(n)-2/EWP(t)/EWP(b) IJP(c) JD/WW/JG/WB

ACC NR: AP6003327 (N) SOURCE CODE: UR/0365/66/002/001/0101/0103

AUTHOR: Zemskov, G. V.; Shulenok, P. F.

ORG: Odessa Polytechnic Institute (Odesskiy politekhnicheskiy institut)

TITLE: Hot-dip method of coating titanium with aluminum or aluminum-silicon alloy

SOURCE: Zashchita metallov, v. 2, no. 1, 1966, 101-103

TOPIC TAGS: titanium, titanium alloy, metal coating, ~~oxidation resistant~~ protective coating, ~~titanium~~ metal oxidation, ~~oxidation~~ corrosion resistance, corrosion protection, aluminum, silicon

ABSTRACT: Protection of titanium and titanium alloys against oxidation and gas absorption by aluminum or aluminum-silicon coating deposited by hot dipping has been investigated. To prevent the dissolution of titanium in liquid aluminum, the titanium surface was oxidized after machining by heating to 400—550C and holding for 10—30 min (for coating with aluminum) or to 450—650C (for coating with aluminum-silicon alloy). Oxidized specimens were then immersed into a molten metal bath for 5—240 min. It was found that the most uniform and sound coatings were obtained in titanium oxidized at 400—550C for 10—30 min and held 20—90 min

UDC: 669.718

Card 1/2

Card 2/2

ACC NR: AT6036280 (A) SOURCE CODE: UR/0000/66/000/000/0122/0129

AUTHOR: Shulenok, P. F.

ORG: Odessa Polytechnic Institute (Odesskiy politekhnicheskiy institut)

TITLE: Surface alloying of titanium by dipping in molten aluminum

SOURCE: AN UkrSSR. Struktura metallicheskikh splavov (Structure of metal alloys). Kiev, Izd-vo Naukova dumka, 1966, 122-129

TOPIC TAGS: titanium, titanium alloy, surface alloying, titanium surface alloying, metal aluminizing

ABSTRACT: Surface alloying of titanium by dipping in molten aluminum or in aluminum alloys has been investigated. Several alloys were tested to determine the effect of alloying elements on the oxidation resistance of titanium. It was found that silicon, chromium, beryllium and tin had a beneficial effect, while zirconium, copper and vanadium lowered the oxidation resistance of the coating, particularly at 1000C. The effect of a second element on the oxidation resistance was studied in greater detail on aluminum-silicon alloys. VT1 titanium specimens were dipped in molten alloy containing 5, 8, 12, 15, 20 and 30% silicon at 650—1000C. Prior to dipping, the specimens were oxidized in air at 400—550C for 10—30 min. The oxidation behavior of the coated specimens was tested at 700, 800, 900 and 1000C for 100 hr and at 1100, 1200 and 1300C for 20 hr. Coating was found to increase greatly the

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ACC NR: AT6036280

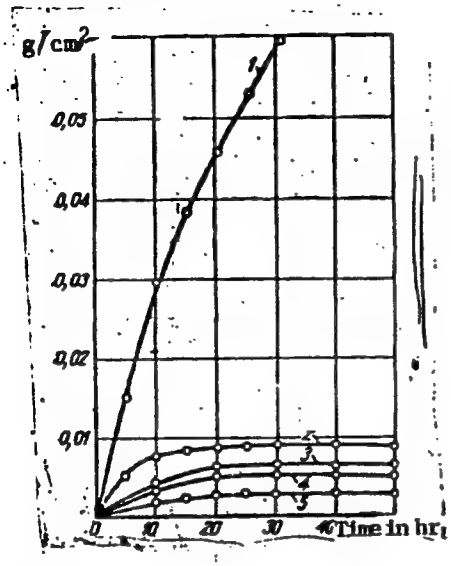


Fig. 1. Weight gain of titanium at 900C versus time

1 - Uncoated; 2 - coated in pure aluminum; 3, 4, 5 - coated in alloy with silicon content of 5, 8 and 12%, respectively.

the oxidation resistance (see Fig. 1). At 1000C the oxidation rate amounted to 0.1 mb/cm^2·hr. At 1200—1300C the coating protected titanium against oxidation and

Card 2/3

ACC NR: AT6036280

gas absorption for not less than 3 hr. The method of oxidizing the surface before dipping greatly simplifies the process since it eliminates fluxing, etching, etc., used in former methods of surface preparation. Orig. art. has: 4 figures.

SUB CODE: 11, 13/ SUBM DATE: 17May65/ ORIG REF: 003/ OTH REF: 001/
ATD PRESS: 5107

Card 3/3

28065
S/148/61/000/007/001/012
E073/E335

15.2640

AUTHORS: Yelyutin, V.P., Pavlov, Yu.A., Surovoy, Yu.N. and Shulenov, V.I.

TITLE: Electric Conductivity and Thermal Expansion of Vanadium, Molybdenum and Tungsten Oxides

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Chernaya metallurgiya, 1961, No. 7, pp. 12 - 17

TEXT: The oxides V_2O_5, MoO_3 and WO_3 are n-type semiconductors. The electric conductivity of V_2O_5 was investigated by several authors within a very wide range of temperatures (-200 to + 1 200 °C). One of these authors did not study the temperature range of interest to the authors of this paper, whilst the results of the others might have been influenced by the interaction of the V_2O_5 with crucible material. As far as the authors are aware, data on the electric conductivity of MoO_3 and WO_3 are available only for temperatures below 200 °C. In

Card 1/9

Electric Conductivity ....

In a special series of experiments with specimens consisting of V_2O_5 and finely-ground graphite, pressed and sintered for 6 hours at 250 °C, it was found that the electric resistance increased monotonously at all temperatures with increasing holding time. On the other hand, the electric resistance of pressed graphite powder was found to drop on heating to 300 °C and remained constant on further heating. This behaviour of oxide-plus-graphite specimens is attributed to interaction between them, accompanied by the formation of $CO + CO_2$; the carbon consumption of the reduction reaction leads to a decrease in the electric conductivity of the specimen since the conductivity is basically determined by the electric conductivity of the graphite. It follows therefrom that the speed of change of the electric resistance at various temperatures can serve as a characteristic of the speed of the process of reduction of the oxide by the carbon. Fig. 5 shows the dependence of the speed of change with time of the electric resistance ($\Delta R/\Delta \tau$, Ω/min) as a function of the temperature (°C) of the V_2O_5 plus C specimens; a sharp increase was

Card 4/9

Electric Conductivity ....

observed at about 380 °C. The conclusion drawn is that the beginning of appreciable reduction of the oxides coincides with the transition from impurity- to intrinsic-type conductivity. The results of dilatometric measurements on V_2O_5, MoO_3 and WO_3 specimens, for heating and cooling rates of 150, 200 and 250 °C/h, respectively, are plotted in Fig.6 [V_2O_5, MoO_3 (Fig.6a), WO_3 (Fig. 6b)],(change in length, μ versus temperature, °C). The temperature was measured with an accuracy of ± 10 °C and the length with an accuracy of 0.5 μ. Thermal expansion occurs up to 350, 440 and 680 °C, respectively. From these temperatures upwards, which correspond approximately to the bends in the temperature-electric conductivity curves, contraction of the specimens was observed. This contraction is attributed to polymorphous transformation or to plastic deformation caused by the measuring equipment as a result of the sharp drop in strength of the oxide at this temperature. It is concluded that at the temperature of the beginning of the reduction process, a change is observed in the physical properties, which is accompanied

Electric Conductivity ....

by a sharp decrease in the strength of the sintered specimens and by a slowing-down of the drop in the electrical resistance during heating. The beginning of the intensive chemical interaction corresponds with the transition from impurity- to intrinsic-type conductivity.
There are 6 figures and 9 references: 8 Soviet and 1 non-Soviet.

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute)

SUBMITTED: January 25, 1961

Card 6/9

SHULEPIN, A.M.

Experience from the work of the hydrometeorological station Umba.
Meteor. i gidrol. no.8:55-56 Ag '57. (MLRA 10:8)
(Lesnoi (Murmansk Province)--Meteorological observatories)

SHULEPIN, V.S.

Selection of boundary conditions using the method of spherical harmonics. Atom. energ. 19 no.4:385 O '65. (MIRA 18:11)

SHULEPINA, N. A.

(Asst, Chair of Hospital Surgery)
Dissertation: "Cancer of the Mammary Glands According to the Data of Three Surgical Clinics of the TGMI (Turkmen State Medical Institute) imeni I. V. Stalin During the Period 1935-1945." Cand Med Sci, Medical Inst imeni I. V. Stalin, 25 Jun 54.
(Turkmenskaya Iskra, Ashkhabad, 13 Jun 54)

SO: SUM 318, 23 Dec. 1954

SHULEPINA, N.A., kand.med.nauk

Stomach cancer. Zdrav.Turk. 3 no.3:3-6 My-Je '59.
(MIRA 12:11)

1. Iz gospital'noy khirurgicheskoy kliniki (zav. - prof.I.F. Berezin) Turkmenskogo gosudarstvennogo meditsinskogo instituta im. I.V.Stalina.

(STOMACH--CANCER)

L 06592-67 EWT(m)/EWP(t)/ETI IJP(c) JD/WW/JW/JG
ACC NR: AP6029854 (A,N) SOURCE CODE: UR/0032/66/032/008/0968/0970

AUTHOR: Pelevin, O. V.; Mil'vidskiy, M. G.; Belyayev, A. I.; Khotin, B. A.; Shulepnikov, M. N.; Voronkov, V. V. 63 13

ORG: State Scientific Research and Planning Institute of the Rare Metal Industry (Gosudarstvennyy nauchno-issledovatel'skiy i proektniy institut redkometallicheskoy promyshlennosti)

TITLE: Determination of the vapor pressure of volatile substances

SOURCE: Zavodskaya laboratoriya. v. 32, no. 8, 1966, 968-970

TOPIC TAGS: vapor pressure, selenium, radioactive isotope, temperature dependence, diatomic molecule, thermodynamic analysis

ABSTRACT: A static method was developed for determining the vapor pressure from the radioactivity of the vapor, based on a proportional dependence of radioactivity to the quantity of material in the measured volume. In the proposed technique only the molecular composition of the vapor need be known. A schematic diagram of the experimental apparatus shows 13 components. The saturated vapor pressure of selenium was determined at temperatures ranging from 380 to 580°C. Quartz ampoules with weighed portions of Se^{75} were evacuated to a pressure of $1\text{-}3\cdot10^{-6}$ mm Hg and placed in the apparatus. Calibration curves were obtained by a series of experiments using different weights. Log

UDC: 541.12.034.6

Card 1/2

P_{Se} is given as a function of temperature, P_{Se} being determined by measuring the counting rate for different condensate and/or vapor temperatures during heating and cooling. In the presence of a condensate, the counting rate depended exponentially on the condensate temperature, while after full vaporization, the counting rate was directly proportional to the average absolute temperature of the vapor phase. Thermodynamic equations were given for the dissociation process $Se_6 \rightleftharpoons 3Se_2$ and the free energy was related to the Se_2 concentration, the vapor pressure, and the cross section area and length of the ampoule. By extrapolating the rate constant for saturated selenium vapors to 933°K, the minimum temperature of the lower zone of the calibration curve, P_{Se_2} was calculated to be 95% P. For unsaturated vapors a new equilibrium condition was established with even greater quantities of diatomic molecules. The heat of vaporization of selenium was calculated to be 25.6 Kcal/mol. The above method may be used for determining the molecular composition of vapors. Orig. art. has: 2 figures, 2 formulas.

SUB CODE: 20,18/ SUBM DATE: none/ ORIG REF: 001/ OTH REF: 004

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R001550120019-7"

L 44680-66 EWT(1)

ACC NR: AP6005364 SOURCE CODE: UR/0413/66/000/001/0110/0110

43
B

AUTHORS: Khlebnikov, S. P.; Shulepov, A. A.

ORG: none

TITLE: Method for producing a regulated delay. Class 42, No. 177693 [announced by Institute of Automation and Remote Control (Technical Cybernetics) (Institut avtomatiki i telemekhaniki (tekhnicheskoy kibernetiki))]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 1, 1966, 110

TOPIC TAGS: delay mechanism, magnetic tape, magnetic recording

ABSTRACT: This Author Certificate presents a method for producing a regulated delay by varying the loop length between the record and the readout heads with the aid of a movable carriage for constant tape speed. To increase the maximum allowable time delays up to a double value with fixed length and direction of motion of the tape ring, for recording and readout of information the general-purpose magnetic heads are functionally switched during the motion of the movable carriage to a position corresponding to the maximum loop length between the heads for the given design. For readout of information recorded on this loop to the moment of switching, an additional head is connected temporatily to the input of the reproduction amplifier. This head is disconnected when it reads out a magnetic mark produced on the

UDC: 681.142

Card 1/2

L 14444-66
ACC NR: AP6002971 SOURCE CODE: UR/0286/65/000/024/0145/0145

INVENTOR: Lobov, A. G.; Ol'shanskiy, A. V.; Shulepov, L. V.

ORG: none

TITLE: A tractor with a bulldozer attachment. Class 63, No. 177286 [announced by the Red Banner Military Engineering Academy im. V. V. Kuybyshev (Voyenno-inzhenernaya krasnoznamennaya akademiya)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 24, 1965, 145

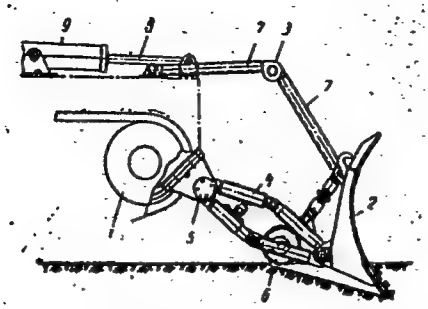
TOPIC TAGS: tractor, construction machinery

ABSTRACT: This Author's Certificate introduces: 1. A tractor with a bulldozer attachment including a scraper blade, a blade-raising mechanism, upper push rods, lower push rods which are four-link hinged mechanisms with flexible connections and a support roller mounted on one of the bottom links. The device is designed for uniform load distribution on the caterpillar tread of the tractor and for reduced frame vibration during motion. The rear end of the tractor body is made in the form of the bulldozer scraper attachment mounted so that it can be moved into the working

Card 1/3 UDC: 621.868.238.6 : 621.878.23

L 14444-66

ACC NR: AP6002971



1 - tractor; 2 - scraper; 3 - hoist mechanism; 4 - four-link hinged mechanism; 5 - adjustable torsion device; 6 - support roller; 7 - upper push rods; 8 - cylinder rod; 9 - power cylinder.

Card 2/3

L 14444-66

ACC NR: AP6002971

position by the hoist mechanism with interhinged upper push rods. One of these rods is also hinged to the scraper device and the others are hinged to the tractor. The rods of power cylinders mounted on the tractor are fastened by hinges to these push rods. 2. A modification of this tractor in which each of the hinged four-link mechanisms of the bulldozer attachment is made with a flexible connection in the form of an adjustable torsion device mounted in the hinge which fastens the four-link mechanism to the tractor.

SUB CODE: 13/ SUBM DATE: 26Nov64

Card 3/3

SHULEPOV, S. V.

SHULEPOV, S. V. -- "Effect of Temperature on the Process of Graphitization of Coke." (Dissertations for Degrees in Science and Engineering Defended at USSR Higher Educational Institutions) Moscow State Pedagogical Inst imeni V. I. Lenin, Moscow, 1955.

SO: Knizhnaya Letopis' No. 31, 30 July 1955.

*For the Degree of Candidate in Physicomathematical Sciences.

USSR/Solid State Physics - Phase Transformations in Solids, E-5

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 34713

Author: Kunin, N. F., Shulepov, S. V.

Institution: Chelyabinsk Institute of Mechanization and Electrification of Agriculture USSR

Title: Effect of Temperature on Graphitation of Cokes

Original Periodical: Dokl. AN SSSR, 1955, 104, No 3, 401-414

Abstract: An investigation was made of graphitation of cokes using the method of measuring the thermal emf in specimens roasted at various temperatures. When roasting at 1,000-1,400° the thermal emf diminishes insignificantly, at 1,400-2,100° it rises sharply, and a further increase in temperature causes a sharp drop in the emf. The reduction in the thermal emf at temperatures from 1,000-1,400° is due to the removal of volatile components of the coke; the increase of the thermal emf at 1,400-2,000° is explained by the growth of the graphite layers, and the reduction in the thermal emf at temperatures above 2,100° is due to the formation of a 3-dimensional graphite structure. The soaking time (from one to 7 hours) at temperatures of 2,100-2,600° does not affect the value of the thermal emf.

18 2100

AUTHORS: Shulepov, S.V., Pashnin, M.I.

TITLE: On the conductivity of artificial graphite

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Fizika. no.2, 1962, 34-39

TEXT: Graphite has an anisotropic crystalline flake structure and, according to the theory proposed by Wallace, its relatively high conductivity is explained by the conductivity along the flakes, which to some extent is confirmed experimentally. The present work attempts to elucidate experimentally the mechanism by which graphite conducts electricity and to determine the influence of the temperature of graphitization by studying its effect on the Hall constant and the Nernst-Ettinghausen coefficient. The raw material, petroleum coke or metallurgical coke with 32% binder from hard coal distillation, was formed by pressing through a die 10.4 mm dia and fired in a 50 kW electrical furnace. The Hall effect was measured on solid plates 10 x 4 x 64 mm, on powders obtained by grinding the specimens and on some industrially made electrodes. The ends of

Card 1/4

...25°C/cm

...side connections

...were made of soft

...to the shallow drilled holes.

...pressing them in a plastic former

...per plates 40 mm long, which were

...heating and cooling surfaces. The mean

Card 2/

On the conductivity ....

gradient was 25°C/cm, and in the middle of the specimen 13°C/cm. The Nernst-Ettinghausen coefficient was measured at magnetic field strengths not exceeding 8000 gauss, and was thus independent of the field strength. Results are shown for graphite made at different temperatures starting with petroleum coke, but it was proved experimentally that other starting materials give similar results. The Nernst-Ettinghausen coefficient was negative and was directly proportional to the temperature of graphitization. For solid electrodes, it was about 40 times greater than for powders, e.g. for solid specimens formed at 2600°C it was 14×10^{-2} absolute units. Since this coefficient is proportional to the mobility of current carriers, its growth with temperature implied increased mobility due to larger crystal size. Discrepancy between experimental and analytical determination at lower temperatures was assumed to be due to incomplete graphitization. Concentration of free electrons per atom was found to be 4×10^{-4}. As temperature of graphitization increased beyond 2000°C, the Hall constant, the Nernst-Ettinghausen coefficient and the electrical resistance of graphite all decreased.

Card 3/4

SHULEPOV, S.V.; DORZHIYEV, M.N.; PLECHEV, V.N.

Dilatometer for studying the thermal expansion of graphite. Zav.lab. 29 no.5:624-625 '63. (MIRA 16:5)

1. Chelyabinskiy pedagogicheskiy institut i Chelyabinskiy elektrometallurgicheskiy kombinat.
(Graphite—Thermal properties) (Dilatometer)
(Expansion of solids)

L 16317-65 EWG(j)/EWP(e)/EWT(m)/EPF(c)/EPR/EWP(j)/T-2/EWP(b) Pc-4/Pr-4/
Ps-4 WW/RM/WH
ACCESSION NR: AR5000761 S/0058/64/000/009/E066/E066

SOURCE: Ref. zh. Fizika, Abs. 9E479

AUTHORS: Shulepov, S. V.; Smirnova, E. A.; Plechev, V. N.

TITLE: Effect of processing emperature on the moduli of elasticity of carbon containing materials

CITED SOURCE: Tr. Chelyab. gos. ped. in-t, v. 2, 1964, 145-152

TOPIC TAGS: carbon, coke, graphitization, modulus of elasticity

TRANSLATION: The authors investigated the Young and shear moduli of samples of tar, cracking, pyrolysis, and sulfurous oil cokes heat-treated in the temperature interval 1273--2773K. It is observed that the moduli of elasticity of all of the investigated materials decrease with processing temperature and reach a minimum at 2273K. Further graphitization of the material at higher temperatures leads to an increase in the

Card 1/2

L 16317-65
ACCESSION NR: AR5000761

moduli. It is established that the specific features of the initial raw material used for the samples come into play up to the highest investigated graphitization temperatures. The decrease in the moduli of elasticity is attributed to destruction of the "bridge" bonds between the grids of the atoms, pore formation, and defects of all kinds. The increases in these moduli at processing temperatures above 2273K is connected with the occurrence and development of the ordered structure of graphite. 15

ENCL: 00

SUB CODE: MT

Card 2/2

L 10886-65 EWG(j)/EWT(1)/EWG(k)/EWT(m)/EPF(c)/EPR/EEC(b)-2/EWP(b)/EWP(e) Pz-6/
Pr-4/Ps-4 IJP(c)/ASD(m)-3 WW/AT/WH
ACCESSION NR: AR4046544 S/0058/64/000/008/E056/E056

SOURCE: Ref. zh. Fizika, Abs. 8E436

AUTHOR: Shulepov, S. V.

TITLE: Thermoelectric properties of carbonaceous substances

CITED SOURCE: Tr. Chelyab. gos. ped. in-t, v. 2, 1964, 159-164

TOPIC TAGS: carbon, coke, graphite, thermal emf, annealing, thermoelectric property

TRANSLATION: The thermal emf (TE) of coke from various sources, used to obtain artificial graphite, was measured relative to Cu. The dependence of the TE on the annealing temperature of the coke has a minimum at 1573--1673K, and a maximum at ~2,773K for all types of coke; the peculiarities of the cokes, connected with the methods of their production, were manifest in the magnitude and in the sign

Card 1/2

L 10886-65
ACCESSION NR: AR4046544

of the TE. The character of the dependence of the TE on the temperature is connected with the burning-out of the impurities and with the ordering of the carbon atoms. The observed variation of the TE of cokes with processing temperature suggests that a material can be obtained, based on carbon, with specified thermoelectric properties and with a definite type of conductivity. P. Perov.

SUB CODE: MT ENCL: 00

Card 2/2

SABININ, K.D. (Moskva); SHULEPOV, V.A. (Moskva)

Short-period internal waves of the Norwegian Sea. Okeanologiia 5 no.2:264-275 '65. (MIRA 18:6)

L 2789-66 EWP(e)/EWT(m)/EPF(c)/EWP(i)/T/EWP(t)/EWP(k)/EWP(b)/EWA(c)
IJP(c) JD/WW/HW/WH

ACCESSION NR: AP5022245 UR/0363/65/001/007/1005/1009
546.26-162:539

AUTHOR: Shulepov, S. V.; Oshchepkova, N. V.; Sukhorukov, I. F.; Rodionov, S. G.; Pronyushkina, M. V.

TITLE: Defects of the microstructure of synthetic graphite

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 7, 1965, 1005-1009

TOPIC TAGS: graphite, carbon product

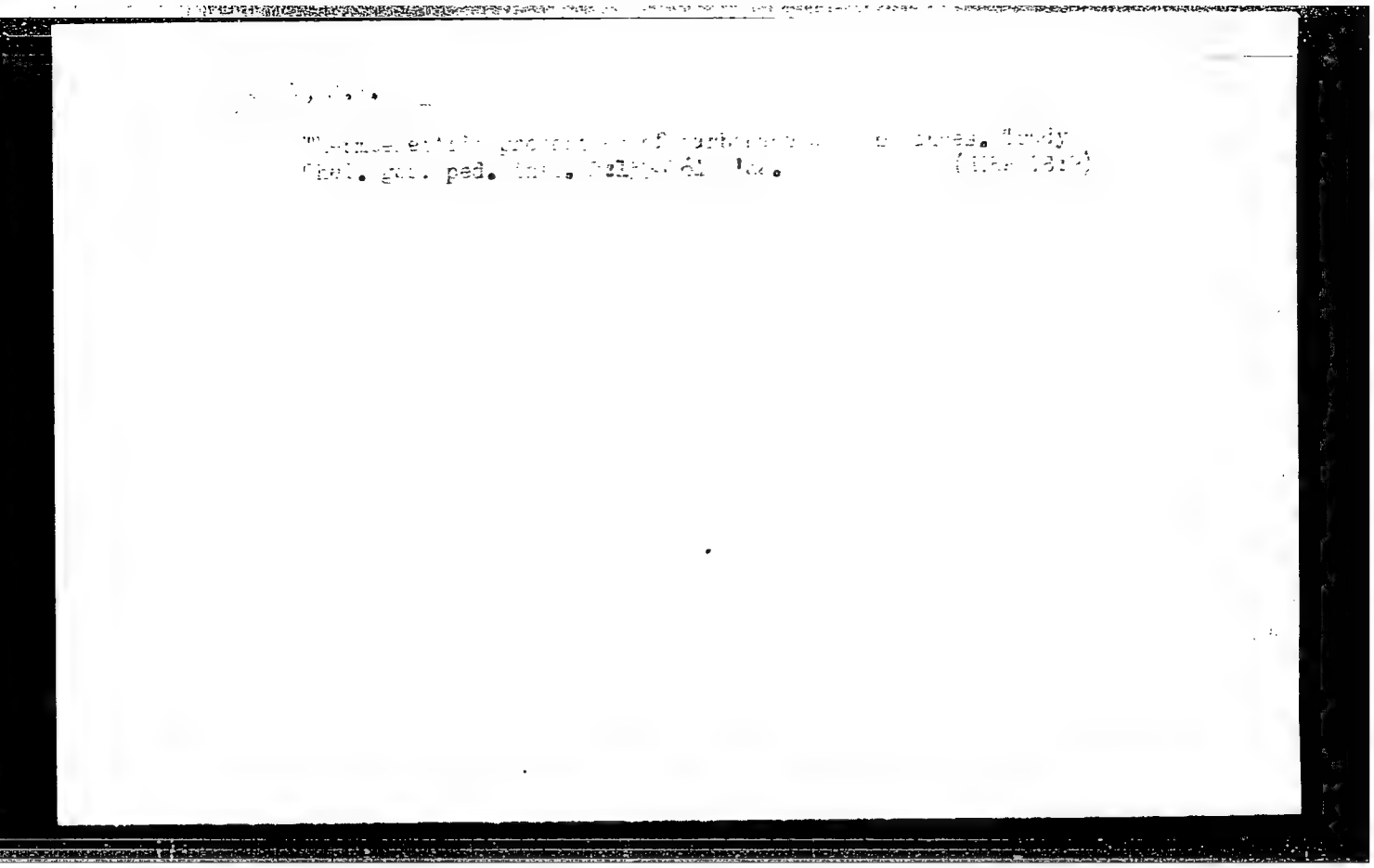
ABSTRACT: The purpose of the work was a microscopic study of fine- and medium-grained hot-extruded graphite and the determination of the microstructural defects and their influence on the basic physicomechanical properties of the material. Electrode material, "green" and heat treated electrode blanks, and graphitic carbon materials produced by domestic electrode plants were investigated. Defects in the form of conglomerates, i.e., round masses with a circular particle orientation, were observed in all the samples. The properties of the uniform material and material containing conglomerates are compared. It is found that the density does not determine the quality of the microstructure and remains

Card 1/2

Card 2/2 nch

SHULEPOV, S.V.; SMIRNOVA, E.A.; PLECHEV, V.N.

Effect of the temperature of treatment on the moduli of elasticity of carbonaceous materials. Trudy Chel. gos. ped. inst. 2:145-152 '64. (MIRA 18:9)



SHULEIKO, S.V.; OVCHINNIKOVA, N.V.; SUKHORUKOV, I.F.; RODIONOV, S.G.; PRONYUSHKINA, M.V.

Microstructure defects of artificial graphite. Izv.AN SSSR.Neorg. mat. 1 no.7:1005-1009 Jl '65. (MIRA 18:9)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut elektrodnoy promyshlennosti.

[illegible], E.A.; SHULEPOV, S.V.

Thermal expansion of coke-pitch materials under different heat treatment in the low and high temperature ranges. Trudy Chel. gos. ped. inst. 2:153-158 '64. (MIRA 18:9)

L 21211-66 EWT(1) GW

ACC NR: AP6011945 SOURCE CODE: UR/0213/65/005/006/1038/1042

AUTHOR: Chindonova, Yu. G.; Shulepov, V. A. 41

ORG: Acoustics Institute AN SSSR(Akusticheskiy institut AN SSSR) B

TITLE: Sound-scattering layers as indicators of internal waves in the ocean

SOURCE: Okeanologiya, v. 5, no. 6, 1965, 1038-1042 12

TOPIC TAGS: acoustic echo, ocean acoustics, biologic ecology, acoustic scattering, oceanography, sonar, oceanographic expedition

ABSTRACT: During the voyages of the "Petr Lebedev" in the winter-spring seasons of 1962-1964 the depth of the ocean floor was measured by an echo sounder; it also was possible to obtain records of sound-scattering layers. This paper discusses the collected data on these layers to determine their relationship to internal waves. The observations were made in the open ocean, and therefore the results differ from earlier studies made in coastal and shallow waters; the variations of the sound-scattering layers have greater amplitudes and the layers are at greater depths. It is shown that data on the distribution of these layers can yield important information on the amplitudes of the internal waves and the depths to which they penetrate. In addition, the results give additional information on the ecology of pelagic animals populating the ocean. A table gives data on the location, time, amplitudes, wave lengths and depths of sound-scattering layers whose distribution is related to internal waves. Orig. art. has: 2 figures and 1 table. [JPRS]

SUB CODE: 08, 06, 20, 17 / SUBM DATE: 19Jul65 / ORIG REF: 003 / OTH REF: 005

Card 1/1 FW UDC: 577.472(26)

AUTHORS: Mozzhukhin, Ye.I., Shulepov, V.I. 32-3-39/52

TITLE: The Application of Coal- and Graphite Heating Elements in the TVV-2 Furnace (Primeneniye ugol'nykh grafitovykh nagrevatele v pechi TVV-2)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr3, pp. 359-360 (USSR)

ABSTRACT: In the laboratory for powder metallurgy of the institute mentioned below the tungsten heating elements of the TVV-2 furnace were exchanged. This exchange can be repeated and takes 20-25 minutes. When using carbon tubes with an outside diameter of 70 mm and an inner diameter of 60 mm work could be carried out only up to a temperature of 1200 ^{o} C; for higher temperatures graphite heating elements of a special shape were developed. The furnace was used for work carried out in an inert gas atmosphere, in which case, however, various alterations had to be carried out. For work carried out in a gas-atmosphere the tungsten heating elements gave satisfaction and so did graphite heating elements. It is not advisable to work in an atmosphere of dissociated ammonia, because the small quantity of undissociated portion may cause considerable

Card 1/2

The Application of Coal- and Graphite Heating Elements in the TVV-2 Furnace

32-3-39/52

corrosion in the copper body of the furnace. There is 1 figure.

ASSOCIATION: Moscow Steel Institute imeni I.V. Stalin (Moskovskiy institut stali im. I.V. Stalina)

AVAILABLE: Library of Congress

1. Laboratory furnaces-Modifications 2. Heating elements-Test methods 3. Heating elements-Test results

Card 2/2

SOV/137-59-1-575

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 1, p 75 (USSR)

AUTHORS: Yelyutin, V. P., Mozzhukhin, Ye. I., Shulepov, V. I.

TITLE: Effect of Combined Chemical and Heat Treatment on Heat Resistance of Alloys (Vliyaniye khimiko-termicheskoy obrabotki na zharoupornost' splavov)

PERIODICAL: Sb. Mosk. in-t stali, 1958, Nr 38, pp 427-432

ABSTRACT: The authors investigated the effect of combined chemical and heat treatment (CHT) of the surface of specimens of a TiC base (71.5% TiC) alloy cemented with a NiAl compound containing 54 atom-% Ni and 60 atom-% of metallic Nb, Zr, Cr, or Be on the resistance to scale formation at 1150 - 1250°C. The CHT consisted of annealing of the specimens covered with a 50:50 mixture of ZrO_2 and alloying metal and 1% NH_4Cl in an H_2 atmosphere at 1500°. Saturation of the surface with niobium and zirconium does not improve the resistance to scale formation of TiC - NiAl alloys. CHT with beryllium and chromium increases the heat resistance by 1900% and 200%, respectively. The authors note that a change in the procedure of saturation of the alloy surface with chromium (for example at 1150° temperature

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Effect of Combined Chemical and Heat Treatment on Heat Resistance of Alloys

in an atmosphere of air) has no effect on its resistance to scale formation. However, CHT conditions should remain constant (1500° temperature for 0.5 hour) for Be, because any difference in the interaction between Be and TiC and NiAl results in a different concentration of Be in these phases. The authors submit that during longer CHT Be reacts predominantly with the NiAl and that the TiC grains become exposed, which lowers the resistance to scale formation of these alloys.

R. A.

FUNKE, V.F.; SHURSHAKOV, A.N.; YUDKOVSKIY, S.I.; KUZNETSOVA, K.F.; SHULEPOV, V.I.; YURKEVICH, Yu.N.

Electric resistance and structure of WC-Co alloys. Fiz. met. i metalloved. 10 no.2:207-215 Ag '60. (MIRA 13:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh splavov.
(Tungsten carbide) (Cobalt-tungsten alloys—Metallography)
(Electric resistance)

AUTHORS: Yelyutin, V. P., Natanson, A. K., Shulepov, V. I., Yudkovskiy, S. I.

S/032/60/036/03/036/064
B010/B117

TITLE: A Device Used to Measure the Electric Resistance of Alloys at High Temperatures

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol 36, Nr 3, pp 344-346 (USSR)

TEXT: A special device has been designed (Fig 1) for measuring the electric resistance of samples 1 x 6 x 20 up to 10 x 15 x 40 mm in size and used in powder metallurgy, at 2000 to 2500°, with a standard furnace of the type TVV-4 used to heat the samples. The sample is attached to molybdenum- or tantalum electrodes by spot welding. The electric resistance is measured by the compensation method (Fig 2, circuit diagram), and calibrated resistors are used which were calculated by the following equation: $R_x = R_E \cdot \frac{V_x}{V_E}$ (R_x and R_E = electric resistances of the sample and the calibration sample, V_x = voltage drop in the sample, V_E = voltage drop in the calibration sample). Phase transformations occurring in Ni-Al-Be alloys were investigated, and it was found that the electric resistance ranging between 0.1 and 0.5 ohm has to be measured at

Card 1/2

YELYUTIN, V.P.; PAVLOV, Yu.A.; SUROVOY, Yu.N.; SHULEPOV, V.I.

Electrical conductivity and thermal expansion of vanadium, molybdenum and tungsten oxides. Izv. vys. ucheb. zav.; chern. met. 4 no.7:12-17 '61. (MIRA 14:8)

1. Moskovskiy institut stali.
(Metallic oxides--Electric properties)
(Expansion (Heat))

LYSOV, B.S., kand.tekhn.nauk [translator]; MOZZHUKHIN, Ye.I., kand. tekhn.nauk [translator]; SHULEPOV, V.I., kand.tekhn.nauk [translator]; IVANOV, A.F. [translator]; SIROTINA, Ye.P. [translator]; NATANSON, A.K., kand.tekhn.nauk, red.; ALEKSEYEV, V.A., red.; DZHATIYEVA, F.Kh., tekhn.red.

[Molybdenum] Molibden; sbornik statei. Moskva, Izd-vo inostr.lit-ry, 1962. 393 p. Translated from the English. (MIRA 15:5)

1. Kafedra metallurgii redkikh metallov Moskovskogo instituta stali (for Lysov, Mozzhukhin, Shulepov).
(Molybdenum)

S/076/62/036/007/007/010
B101/B138

AUTHORS: Yelyutin, V. P., Pavlov, Yu. A., Shulepov, V. I., and Myakisheva, T. G.

TITLE: Electrical resistivity of V_2O_5, MoO_3, and WO_3 when heated in hydrogen atmosphere

PERIODICAL: Zhurnal fizicheskoy khimii, v. 36, no. 7, 1962, 1524 - 1527

TEXT: The initial stage of the reaction of V_2O_5, MoO_3, and WO_3 with H_2 was studied by measuring the electrical resistivity (apparatus see Izv. vyssh. uchebn. zavedeniy, Chernaya metallurgiya, no. 7, 1961). Oxides sintered in an O_2 flow for 6 hr were used. At all temperatures applied (200 - 700°C), resistivity was found to diminish in the course of heating. $\Delta R/R\Delta T$ for V_2O_5 was 0.002 at 250°C, 0.004 at 300°C, 0.007 at 350°C, 0.016 at 375°C, and 0.027 at 380°C (start of reaction with H_2). For MoO_3 and WO_3, $\Delta R/R\Delta T$ rose slowly at low temperatures, and rapidly near the beginn-

Card 1/2

Electrical resistivity ...

ing of reaction with H_2 (430°C for MoO_3, 630°C for WO_3). The slow rise corresponds to the extrinsic conductivity of the oxides with chemisorbed H_2 reacting as donor with the oxide, while the steep rise of the curve is due to the changeover to intrinsic conductivity. Here, an intense reaction with H_2 starts in the gaseous phase owing to sublimation (dissociation) of the oxide. There are 4 figures and 1 table.

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute)

SUBMITTED: March 1, 1960

Card 2/2

FUNKE, V.F.; SHULEPOV, V.I.; YUDKOVSKIY, S.I.

Dependence of the electric resistance of WC-Co alloys on their structure. Fiz. met. i metalloved. 13 no.5:794-795 My '62. (MIRA 15:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh splavov.
(Tungsten-cobalt alloys—Electric properties)

YELYUTIN, V.P.; PANOV, A.V.; NATANSON, A.K.; SHULEPOV, V.I.; VASIL'YEV, O.A.

Apparatus for measuring internal friction and shear modulus at high temperatures. Zav. lab. 28 no.9:1123-1126 '62. (MIRA 16:6)

1. Moskovskiy institut stali i splavov.
(Testing machines)

L 24473-66 EWT(m)/T/EWP(t) IJP(c) JG/JD/GS

ACC NR: AT6010576 (N) SOURCE CODE: UR/0000/65/000/000/0083/0095

AUTHOR: Mal'tsev, M. V.; Shulepov, V. I.; Britnev, G. P.; Zhdannikova, V. N.; Dannelyan, T. A.; Popova, Yu. S.; Fedotov, E. I.; Sheynberg, B. N. 64 60 B+1

ORG: All-Union Institute of Light Alloys (Vsesoyuznyy institut legkikh splavov)

TITLE: Some data on the kinetics of the dissociation of a solid solution of interstitial impurities in cast molybdenum 27 18

SOURCE: AN UkrSSR. Mekhanizm plasticheskoy deformatsii metallov (Mechanism of the plastic deformation of metals). Kiev, Naukova dumka, 1965, 83-95

TOPIC TAGS: molybdenum, cast alloy, solid solution, crystal impurity, crystal lattice defect

ABSTRACT: The authors study the effect which the number and distribution of crystal lattice defects have on dissociation of a solid solution of interstitial impurities in molybdenum. The density and distribution of dislocations in cast molybdenum are determined principally by the parameters of the crystallization process (the rate of crystallization, temperature gradient in the liquid and solid metal etc.). An x-ray analysis of a molybdenum single crystal produced by electron-beam zone melting and

Card 1/2 2

containing interstitial impurities of carbon (0.01%) and oxygen (0.0015%) under optical and electron microscopes showed that the crystal is a single-phase solid solution of interstitial impurities in molybdenum. An entirely different picture is observed in cast molybdenum produced by arc melting. The decay of the solid solution in the ingots is localized on polygonization boundaries where the adjacent interstitial atoms are segregated. The compression stresses which arise at the interfaces tend to separate the crystals and are a cause of high brittleness in the cast metal. The polygonization single crystal in cast molybdenum is basically a saturated solid solution of interstitial impurities which decays only in widely scattered isolated sections. At the same time, the ductility of the polygonization single crystals is usually as high as in single crystals grown by zone melting. Various methods for increasing the ductility of cast molybdenum are discussed. Orig. art. has: 15 figures.

SUB CODE: 11,20/ SUBM DATE: 26Sep64/ ORIG REF: 001/ OTH REF: 000

L 41024-66 EWT(m)/EWP(w)/T/EWP(t)/ETI IJP(c) JT/JD/JG/GD

ACC NR: AT6009602 (N) SOURCE CODE: UR/0000/65/000/000/0125/0130

AUTHOR: Mal'tsev, M. V.; Shulepov, V. I.

ORG: All-Union Institute of Light Alloys (Vsesoyuznyy institut legkikh splavov)

TITLE: Nature of the brittleness of molybdenum

SOURCE: AN UkrSSR. Fizicheskaya priroda khrupkogo razrusheniya metallov (Physical nature of brittle failure of metals). Kiev, Izd-vo Naukova dumka, 1965, 125-130

TOPIC TAGS: molybdenum, brittleness, crystal impurity, plasticity, phase composition, solid solution, plastic deformation, molybdenum compound

ABSTRACT: On the basis of a literature survey it is shown that molybdenum, a naturally plastic metal, becomes brittle at low temperatures if it contains even less than one-hundrethh of a percent of interstitial impurities: carbon, oxygen, nitrogen and hydrogen, since then a considerable amount of second phase may still form. E.g. if a carbide of the Mo_6Me_6C type segregates in Mo containing metal impurities, an 0.01% C impurity will form a second phase amounting to several vol.%. Clearly, in real metal there form even less compact compounds of Mo, interstitial impurities and metallic impurities -- oxycarbonitrides, whose volumetric content in equilibrium state at low temperatures may be quite substantial. The energy of inter-

Card 1/3

action between dislocations and interstitial atoms should be maximal for metals of the VI group, and so should be the elastic stresses that arise in the matrix during the segregation of interstitial atoms on dislocation pile-ups or on grain boundaries. Hence, the decomposition of the solid solution, which in cast Mo localizes chiefly at the polygonization boundaries, and in deformed Mo, at high temperatures, both on the grain boundaries and in the grain interior, is accompanied by a type of hardening such that the metal is brittle in the sites where this decomposition takes place. There exist several theories of the mechanism of action of interstitial impurities. Of these, the most common is the theory attributing the high brittleness of metals in the VIA group to the formation, around the individual dislocations, of Cottrell atmospheres consisting of atoms of interstitial impurities which sharply reduce the mobility of dislocations. However, numerous experimental findings contradict this theory. In particular, it is widely known that the individual crystals into which a Mo ingot readily divides represent a supersaturated solid solution and at the same time display high plasticity. An interesting finding is, in this connection, presented by B. A. Movchan (Fizicheskiye i khimicheskiye neodnorodnosti v litom metalle. K., Gostekhizdat UkrSSR, 1960): the high brittleness of cast molybdenum may be largely explained by the formation of a network of polygonization boundaries during the cooling of the ingot. In ordinary dispersion-hardening alloys of the duralumin type, the hardened state is unstable at high temperatures. Isothermal exposure is followed by the reaction: Guinier-Preston zones → dispersion segregations → coagulated second-phase

L 41024-66
ACC NR: AT6009602

segregations. By contrast, in Mo the atomic volume of the segregating interstitial phase per atom of metal is much greater than in the original solid solution, and hence coagulation of second-phase segregations is sharply inhibited, by virtue of thermodynamic considerations (hydrostatic pressure arising around the second-phase particle during its segregation). Hence, if the second-phase segregations are coagulated in Mo by some technique (e.g. special heat treatment) without relaxing the attendant local stresses, then conditions for the formation of microcracks during the plastic deformation of metal are created in these sites. As a result, one mechanism of high brittleness of Mo -- dispersion hardening -- is replaced by another, namely, by the presence in the metal of stressed microvolumes in which crack formation is more apt to occur. As proposed above, this explanation of the nature of the brittleness of Mo and its alloys, is in good agreement with experimental findings and clearly may be extended to other metals that are brittle in certain structural states and have a high modulus of elasticity and small dimensions of the atom: Cr, W and Be. Orig. art. has: 1 table.

SUB CODE: 11, 20, 13/ SUBM DATE: 26Sep64/ ORIG REF: 005/ OTH REF: 004

Card 3/3 hs

L 01126-67 EWT(m)/T/EWP(t)/ETI IJP(c) JD/JG/AT

ACC NR: AT6026903 SOURCE CODE: UR/0000/66/000/000/0018/0021

AUTHOR: Piguzov, Yu. V.; Verner, V. D.; Shulepov, V. I.; Rzhevskaya, I. Ya.

72
B+1

ORG: none

TITLE: A study of the behavior of interstitial atoms in molybdenum by means of internal friction

SOURCE: AN SSSR. Institut metallurgii. Vnutrenneye treniye v metallakh i splavakh (Internal friction in metals and alloys). Moscow, Izd-vo Nauka, 1966, 18-21

TOPIC TAGS: internal friction, molybdenum, carbon, nitrogen, oxygen, activation energy, temperature dependence, solid solution, quenching, tempering, plastic deformation

ABSTRACT: An internal friction study was made of the effects of C, O_2 and N_2 additions in molybdenum. The temperature dependence of internal friction was measured in a vacuum on samples of 1 mm width and 0.35 mm thickness. Oscillation frequencies ranged from 0.5 to 2.1 cps. Quenched samples exhibited a wide internal friction peak, spread over the range 60-400°C, the height of which increased linearly as a function of quenching temperature due to the higher solubilities of the interstitial atoms. The concentration ratio C/C_{max} for C, N_2 and O_2 corresponded with the internal friction ratio Q^{-1}/Q^{-1}_{max}. The peak itself consisted of three components--I, II, III--a high central por-

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tion (II) and two neighboring plateaus (I, III). The related activation energies as determined by the Wert-Marx method were 26, 32, and 39 Kcal/mol for I, II and III respectively. Component III was associated with carbon since it vanished after quenching from 1000°C, and the concentration of carbon in solid solution is negligible below 1200°C. The central component II may have been caused by oxygen since oxygen is the most soluble interstitial in molybdenum; also Q^{-1}/Q^{-1}_{max} correlated best with O_2/O_2 max.

Component I was probably caused by nitrogen. The activation energy for nitrogen diffusion in molybdenum was previously determined by Hartley and Wilson to be 25.1 ± 2.7 Kcal/mol. The peaks and the low temperature background decreased in magnitude after tempering at 600°C for 30 min, or in quenched samples after annealing in hydrogen at 1600°C. Deformation of vacuum annealed samples pushed the high temperature side toward the left, either as a result of the breakaway of dislocations from Cottrell atmospheres or because of localized differences in deformation conditions. Orig. art. has: 6 figures.

SUB CODE: 11,20/ SUBM DATE: 02Apr66/ ORIG REF: 001/ OTH REF: 004

Card 2/2 LC

SHEVTSOV. P.P., kand.tekhn.nauk; SHULEPOV, V.N., inzh.

Acceleration of fast tractors with speed shift during running. Trakt. i sel'khozmash. no.9:1-3 S '65. (MIRA 18:10)

1. Volgogradskiy sel'skokhozyaystvennyy institut.

ZAYTSEVA, K.A.; SHULEPOV, Yu.V.; AL'TSHULER, M.A.

Deposition of aerosols from laminar flow under the effect of gravity. Koll.zhur. 23 no.6:687-689 N-D '61. (MIRA 14:12)

1. Institut obshchey i neorganicheskoy khimii AN USSR, Kiyev.
(Aerosols) (Laminar flow)

43804

S/069/62/024/006/009/009
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17

24.1420

AUTHORS: Shulepov, Yu. V., Dukhin, S. S.

TITLE: Theory of electrical coagulation of spherical aerosol particles

PERIODICAL: Kolloidnyy zhurnal, v. 24, no. 6, 1962, 749-751

TEXT: The capture efficiency E of one aerosol particle by another is calculated from the general equations $m_1 d\vec{v}_1/dt = \vec{F}_1 + m_1 g\vec{\zeta} + \vec{F}_{12e}$ and $m_2 d\vec{v}_2/dt = \vec{F}_2 + m_2 g\vec{\zeta} - \vec{F}_{12e}$, where $m_1 = (4/3)\pi R_1^3 \rho$ and $m_2 = (4/3)\pi R_2^3 \rho$ are the masses of the first and the second particle, respectively; ρ is the particle density, R_1 and R_2 the radii; g is gravitational acceleration; $\vec{\zeta}$ is the vertical unit vector; F_{12e} is the force of electrical interaction between the particles; $\vec{v}_1$ and $\vec{v}_2$ are the velocity vectors of the first and second particle, respectively; t is the time; F_1 and F_2 are the forces

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which, owing to the viscosity of the medium, act on particles 1 and 2. Attempts by L. M. Levin and R. Cochet (L. M. Levin, Dokl. AN SSSR, 94, no. 3, 1954; R. Cochet, Ann. geophys., 8, 33, 1952) to solve the above set of equations are discussed. It is shown that solutions can be obtained for any ratio of the particle radii, R_2/R_1, using the following set of equations: $6\pi\eta R_1 dx_1/dt = K(x_2 - x_1)/\left[(x_1 - x_2)^2 + (y_1 - y_2)^2\right]^3$;

$6\pi\eta R_1 dy_1/dt = m_1 g + K(y_2 - y_1)/\left[(x_1 - x_2)^2 + (y_1 - y_2)^2\right]^3$;

$6\pi\eta R_2 dx_2/dt = -K(x_2 - x_1)/\left[(x_1 - x_2)^2 + (y_1 - y_2)^2\right]^3$;

$6\pi\eta R_2 dy_2/dt = m_2 g - K(y_2 - y_1)/\left[(x_1 - x_2)^2 + (y_1 - y_2)^2\right]^3$; here, $K = 2Q_1^2 R_2^3$, and Q_1 is the electrical charge of the first particle. When the larger particle is charged and the smaller one uncharged, the capture efficiency is given by $E_2 = (45/16g\rho)^{2/5} Q_1^{4/5} R_2^{4/5} \left[R_1^{12/5}(R_1 - R_2)^{2/5}\right]$, but

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when the smaller one or both the particles are charged, then $E_3 = (45/16g\rho)^{2/5}Q_2^{4/5}R_1^{-6/5}R_2^{-2/5}(R_1 - R_2)^{-2/5}$; $E_1 = 3Q_1Q_2/\pi g R_1^3(R_1 - R_2)R_2$. The known formulas, derived on the basis of the elementary act of electrical coagulation as a one-body problem, are particular cases of the formulas derived here. There is 1 figure.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN USSR, Kiyev (Institute of General and Inorganic Chemistry of the AS UkrSSR, Kiyev)

SUBMITTED: May 18, 1961

Card 3/3

SHULEPOV, Yu.V.; BUYKOV, M.V.

Dissipation of stratus cloudiness in a turbulent atmosphere. Trudy UkrNIGMI no.48:3-12 '65.

Solution to instability in an unstably stratified atmosphere. Ibid.:39-44 (MIRA 18:8)

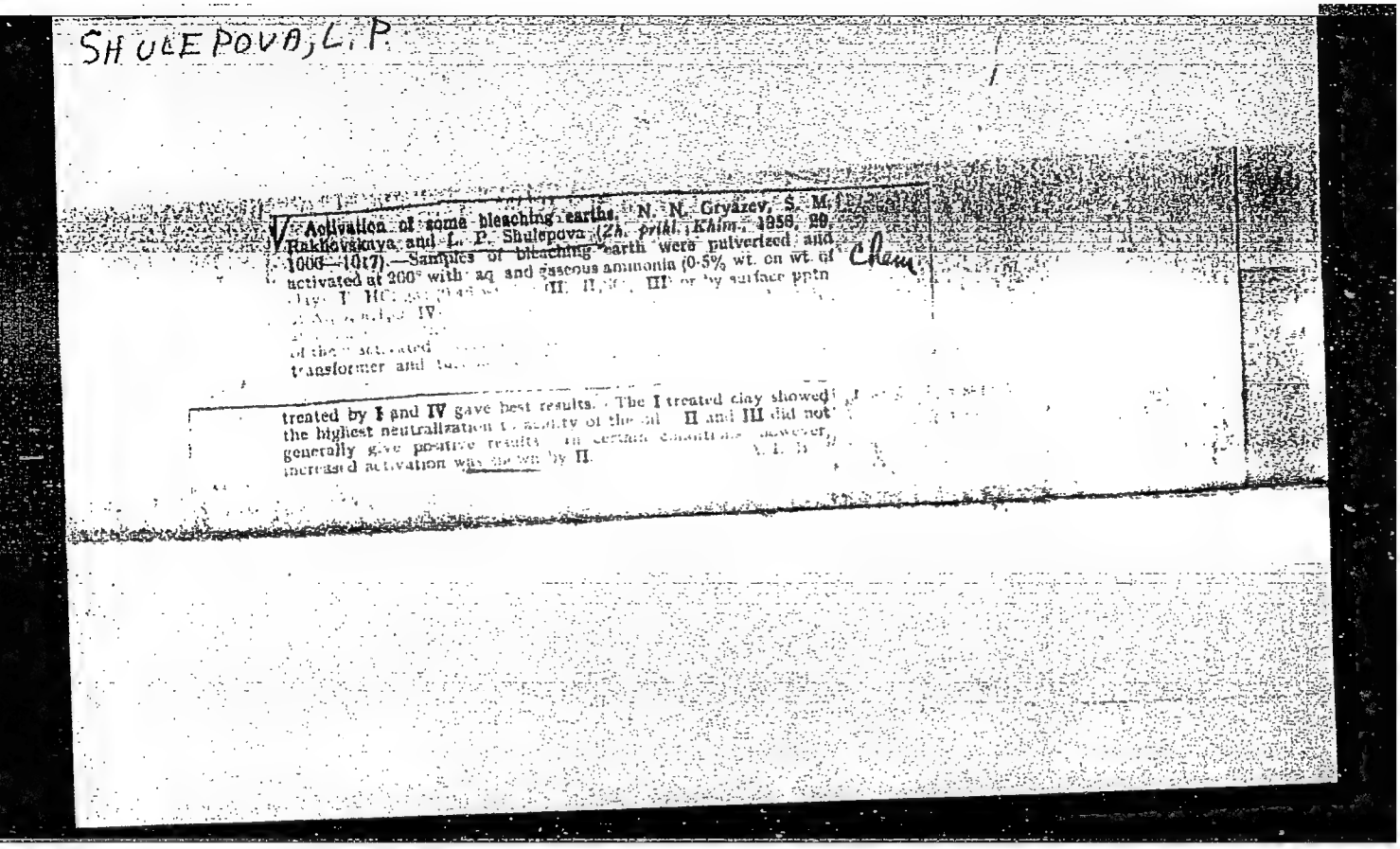
KHOLENKO, Yu.V.; BUTKOV, N.V.

Theory of dissipation of gravity waves in a nonisothermal atmosphere in the presence of dissipative vertical motions. Izv. AN SSSR. Fiz. atm. i okeana 1 no.3:248-257 Mr '65. (MIRA 18:5)

1. Institut prikladnoy geofiziki Gidrometeorologicheskogo komiteta AN SSSR.

SHULEPOV, Ye.V.

Evolution of stratus cloudiness in the lowest atmospheric layer.
Trudy UkrNIGMI no.48:13-20 '65.
(MIRA 18:8)



SHULEPOVA, L. P.

Activation of some bleaching earths. N. N. Gryazev, S. M. Rakhovskaya, and L. P. Shulepova (*Zh. prikl. Khim.*, 1956, 29, 1006—1017).—Samples of bleaching earth were pulverized and activated at 200° with aq and gaseous ammonia (0·5% wt. on wt. of [illegible] I, HCl; II, [illegible]; III, II, III or by surface pptn [illegible] IV. [illegible] of the activated [illegible] transformer and [illegible]

treated by I and IV gave best results. The I treated clay showed [illegible] the highest neutralization [illegible] of the oil. II and III did not generally give positive results [illegible] however, increased activation was shown by II.

SHULEPOVA

GRYAZEV, N.N.; RAKHOVSKAYA, S.M.; SHULEPOVA, L.P.

Activation of bleaching earths of the Volga region. Zhur.prikl. khim. 29 no.7:1006-1017 Jl '57. (MIRA 10:10)

1.Nauchno-issledovatel'skiy institut khimii pri Saratovskom gosudarstvennom universitete im. N.G. Chernyshevskogo.
(Volga Valley--Bleaching agents)

SHULEPOVA, N. A.

SHULEPOVA, N. A. -- "The Condition of the Kidneys in Pulmonary Tuberculosis." Leningrad, 1955. (Dissertation for the Degree of Candidate in Medical Sciences).

So.: Knizhnaya Litopis', No. 7, 1956.

SHULEPOVA, N.A.

Kidneys in pulmonary tuberculosis. Urologiia 22 no.2:15-17 Mr-Ap '57. (MLRA 10:7)

1. Iz kafedry urologii (zav. - prof. A.M.Gasparyan) I Leningradskogo meditsinskogo instituta imeni akad. I.P.Pavlova (dir. - dotsent A.I. Ivanov).

(TUBERCULOSIS, PULMONARY, compl.
clin. disord. & pathol. of kidneys)
(KIDNEYS, in DISEASES, etiol. and pathogen.
clin, disord. & pathol. in pulm. tuberc.)

SHULEPOVA, N.A., kand. med. nauk

Surgical treatment of urological patients with cardiovascular diseases. Urologiia 28 no.3:6-10'63 (MIRA 17:2)

1. Iz urologicheskoy kliniki (zav. - prof. A.M. Gasparyan) I Leningradskogo meditsinskogo instituta imeni akademika Pavlova.

SHULEPOVA, N.I.; BELOV, N.V.

Symmetry of the Pattersen function. Kristallografiia 1 no.5: 594-595 '56. (MLRA 10:2)

1. Gor'kovskiy gosudarstvennyy universitet im N.I. Lobachevskogo.
(Crystallography, Mathematical)

SHULER, K.E.

PHASE I BOOK EXPLOITATION SOV/4257

Opticheskaya pirometriya plazmy; sbornik statey (Optical Pyrometry of Plasma; Collection of Articles) Moscow, Izd-vo inostrannoy lit-ry, 1960. 438 p. No. of copies printed not given.

Ed. (Title page): N.N. Sobolev, Professor; Ed. (Inside book): L.F. Yakimenko; Tech. Ed.: Ye. S. Artemova.

PURPOSE: This book is intended for scientists and students (at the university level) conducting research on methods of measuring the temperature of plasma.

COVERAGE: This is a collection of 24 articles dealing with the principles of plasma pyrometry, or more specifically, with the principles and methods of measuring the temperature of ionized gases (plasma). Twelve articles are translations from the English, 11 are from the German, and 1 is a review and summary by V.V. Kitayeva and V.N. Alyamovskiy of 7 Dutch and German works. It is pointed out in the introduction, written by Professor N.N. Sobolev, that despite the great interest in plasma pyrometry and the great number of individual articles written on the different measurement methods developed, there has been no general work or collection of articles summarizing and surveying the entire field, either in the USSR or elsewhere. It is felt that the present collection, despite its several omissions (such as radio-physical methods of investigation) comes closest to being a complete coverage of the subject. The introduction contains a list of 42 bibliographic references, 37 of which are Soviet. The following Soviet authors appear: L.I. Avramenko, L.M. Biberman, A.P. Dronov, V.N. Yegorov, S.E. Frish, V.V. Kandyba, I.N. Kirenkov, V.I. Kogan, V.N. Kondrat'yev, N.N. Ogurtsova, A. Ye. Shtandel', N.N. Sobolev, A.G. Sviridov, and N.G. Vanyukov. The book is divided into 3 parts. Part I discusses the physical and chemical characteristics of plasma and plasma pyrometry; Part II is concerned with spectral methods of measuring the temperature of plasma, and Part III covers nonspectral methods of measurement. Each article is accompanied by a list of bibliographic references.

Card 4/9

PREDVODITELEV, A.S.; LAVROV, N.V., doktor tekhn. nauk, prof.; AL'T-SHULER, V.S., doktor tekhn. nauk; POPOV, V.M., kand. tekhn. nauk; TSEYTLIN, B.S., red. izd-va; PRUSAKOVA, T.A., tekhn. red.; RYLINA, Yu.V., tekhn. red.

[Fuel gases in the national economy; work of the All-Union Conference] Ispol'zovanie goriuchikh gazov v narodnom khoziaistve; trudy Vsesoiuznogo soveshchaniia. Moskva, 1961. 266 p. (MIRZ 14:5)

1. Akademiya nauk SSSR. Institut goriuchikh iskopayemykh. 2. Chlen-korrespondent AN SSSR (for Predvoditelev) 3. Institut goryuchikh iskopayemykh AN SSSR (for Lavrov, Popov)
(Gas as fuel--Congresses)